

2003 DHSS Missouri Heart Disease and Stroke Program Worksite Inventory Report

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Summary Report

The Missouri Department of Health and Senior Services' (DHSS) Missouri Heart Disease and Stroke Program (MHDSP) implemented a Worksite Inventory Program to assist in employee health promotion. The benefits of employee health promotion are two-fold. For the employer, the promotion of employee health invests in the future of the company. Healthy and motivated employees have lower health care expenditures, fewer health-related absences, higher productivity, fewer injuries and increased morale, establishing an environment where business can thrive. For the employee, having an employee-friendly work environment can increase employee satisfaction and morale.

In the United States, almost 136 million people over the age of 16 are employed in the workforce, three million of those in Missouri, many of whom spend the majority of their waking hours in work-related activities. Therefore, the workplace becomes an ideal setting for health promotion, disease prevention programs, and other wellness activities. In 1985, the Missouri Department of Health, in collaboration with the US Centers for Disease Control and Prevention (CDC), began to gather information about health behaviors and practices among Missourians. In 1998, the Behavioral Risk Factor Surveillance System (BRFSS) reported "the state of Missouri ranks above US rates for the leading causes of death". "Research shows that most of these diseases are related to personal health behaviors. Smoking, a diet high in fat and low in fruits and vegetables, obesity and sedentary life-style are the major contributors to poor health".
<http://www.dhss.state.mo.us/Publications/98BRFSSCentral.pdf>

Heart disease, obesity, cancer, stroke, and chronic lung disease (emphysema) are linked to personal unhealthy behaviors and a sedentary life-style. The growing increase of obesity and chronic illnesses in the nation's population has highlighted the need for regular leisure time physical activity: "Evidence indicates that regular physical activity reduces the incidence of and/or is otherwise beneficial to many medical conditions--including coronary heart disease, colon cancer, osteoporosis, hypertension, depression, diabetes mellitus, and obesity". (<http://www.cdc.gov/mmwr/preview/mmwrhtml/00001416.htm>, p. 3)

Survey Demographics/Design

The Worksite Inventory tool is a modified version of the New York “Heart Check” tool. The inventory allows worksites to assess themselves regarding supports for physical activity, nutrition/healthy eating, a smoke-free environment, chronic disease screenings, educational materials, and asthma, repetitive motion/arthritis, and administrative support for employee health. The inventory tool was field tested by MHDSP staff, and was later piloted by three Local Public Health Agencies (LPHAs) in 2000.

The Worksite Inventory Program pilot project was successful, and the program expanded statewide in 2001. Also in 2001 the inventory tool was expanded to include questions on asthma and repetitive motion/arthritis. The expanded project was overseen and administered by eleven “lead agencies”. The lead agencies are LPHAs located throughout the state that work in conjunction with the MHDSP to promote heart-healthy behavior among Missouri citizens. For the project, the MHDSP chose mid-size businesses that employed between 50–500 employees. However, if an interested company had more than 500 or less than 50 employees housed in one location or building, they were permitted to partake in the inventory.

Of those businesses selected, the initial contact came from the lead agencies. The lead agencies described the Worksite Inventory Project, and gauged the interest of the business in participating in the project. If the contacted business was interested in the worksite inventory, an appointment was made for the initial meeting, which was followed by a site visit. At the site visit the inventory was completed, and a feedback report was provided by the lead agency to the worksite in a personal visit approximately six weeks following the completion of the inventory. The lead agency again contacted the worksite three months after presenting the feedback report to the worksite in order to provide any necessary technical assistance to the worksite, and to determine the intentions of the worksite to conduct any interventions promoting employee wellness.

Chronic Health Conditions

At current, chronic illnesses make up over 50% of the prevalence of illness and associated medical costs. Many of the chronic illnesses are leading causes of morbidity in the United States. However, these illnesses are preventable. According to the National Center for Health Statistics, “more than 90 million Americans live with chronic illnesses. Chronic diseases account for 70% of all deaths in the United States or in other words, seven of every 10 Americans who die each year, or more than 1.7 million people die of a chronic disease. (<http://www.cdc.gov/nccdphp/overview.htm>)

Currently, preventable illnesses encompass over 70% of the burden of illness and medical costs associated with chronic diseases. (Fries, et al., 1993, pp. 2-3) Based on this information, it is worth reiterating that over 50% of the nation's medical costs can be prevented with improved preventive management aimed at chronic illnesses. For further examination, "...preventing chronic illness would offer hope of a reduction in demand: if a coronary-artery bypass graft procedure costs \$50,000, then avoiding that procedure could save up to \$50,000, depending on the cost of the intervention, on whether the procedure is postponed or prevented". (Fries, et al., 1993, pp. 2-3)

The United States is spending \$1 trillion dollars on healthcare, which surpasses all other countries in the globalized world. Healthcare costs continue to increase and "what's more, as a share of the GDP, health spending will grow from 12% now to almost 17% in just eight years". (Kiplinger Editors, 1998) With these projected estimates, health care insurance will continue to rise, resulting in an increased gap between the insured and uninsured. According to the Wellness Council of America, "the number of people without health insurance continues to rise. In fact, in 1997 the number of people without health insurance reached the highest level in a decade at 43.4 million, or 16.1% of the population". (<http://www.welcoa.org/wellworkplace/index>, pg. 1) With the growing changes in healthcare, it may be important to revisit personal health and proactive strategies aimed at improved quality of life.

Justification of Wellness Inventory

In our changing economy, downsizing has caused businesses to reconsider the time and money expended in replacing workforce personnel. In over 80% of mid-sized businesses with 50 or more employees, it is a more efficient practice to nurture and invest in valuable employees, promoting job-satisfaction and reducing the overall turnover rate for much needed personnel. Most companies have become savvy in establishing employee health promotions, usually geared toward some form of exercise, stress management, or smoking cessation classes. "For many companies, medical costs can consume half of corporate profits—or more". (<http://www.welcoa.org>, pg. 1) Employees are forced to pay expensive premiums in healthcare to cover medical co-payments. Therefore, the healthier the environmental and educational policies in the workplace, the healthier the employees are in the company.

Tobacco & Smoking

Smoking continues to be prevalent among Americans despite the overwhelming information that supports the adverse effects of tobacco use on health, including CVD. (CDC 2003; Tanuseputro et al 2003; Manley 1997) Tobacco use has been directly linked to numerous types of cancer and respiratory diseases that are often preventable. Cigarette smoking is the most common form of tobacco use, and is the leading behavioral cause of cancer in the United States. According to the American Cancer Society, "More Americans

are killed by cigarettes than alcohol, car accidents, suicide, AIDS, homicide, and illegal drugs". (<http://www.cancer.org/>)

Smoking cessation has many advantages. For example, it will substantially decrease the risk of lung, larynx, pharynx, esophagus, mouth, pancreas, bladder, and cervical cancer. According to WELCOA (1995), people who smoke are absent from work more often, anywhere from 10-32% more often. They report that Du Pont estimated smoking related illnesses and absences cost their company \$960 per person per year. Additional benefits of smoking cessation include reduced risk of other major diseases, such as lung diseases, coronary heart disease, and cardiovascular disease. (CDC, 1993, p. 1) Progressive businesses are aimed at finding strategies that will enhance the quality of work conditions for their employee base. The goal through employee job satisfaction was to provide a semi-personable social climate that would deter employees from leaving, eliminating quick turnovers. Moreover, "employees exposed to second hand smoke on the job are 34% more likely to develop lung cancer than the general population" (CDC, 1993, p. 2). Other businesses have either placed no smoking bans throughout their facility or have designated smoking areas. Designated smoking areas are usually a climate-controlled smoking shelter located on the outside, directly away from high traffic areas and view.

Based on our worksite inventory (n=251), survey results showed 83.7% of the worksites had a written smoke-free work environment policy. This figure increases to 85% when we include those worksites that answered no to question 3.1, but answered questions 3.1.1-3.3. (see Table 1) More than half of the worksites that have written smoke-free policies reported a partial ban on smoking with designated de facto smoking areas. While the majority of businesses reported smoking was allowed on the grounds but not in the building, very few businesses reported a total smoking ban throughout the premises. According to the results almost all worksites adhere to a smoking policy, but how smoking policies are implemented can vary in magnitude based on each location. Consistent with the above results, over three quarters of the respondents believed the smoking policy was enforced and several said that tobacco products could not be purchased on the premises. Unfortunately, significantly fewer reported their worksite at providing some incentive for smoking cessation.

Table 1: Smoking Assessment

	Questions	Yes	No
3.1	Does the worksite have a <u>written</u> smoke – free work environment policy?	84%	15.9%
3.1.1	What is the extent of the smoking ban?		
	• Partial Ban	26%	
	• On Grounds, but not in Building	68%	
	• Total Ban	6%	
3.1.2	Is policy enforced?	93.3%	6.1%
3.2	Worksite provide any type of incentives for non-smoker?	17.1%	82.8%
3.3	Can tobacco products be purchased in worksite?	12.3%	87.6%

Nutrition

Proper nutrition is important to have a healthy body. Understanding that there is a more responsible way to eat “food” decreases the idea of “good or bad foods”, and refocuses on eating patterns and habits. The intake of healthy food will supply the body with the appropriate nutrients for energy and maintenance of health. Many healthy foods also provide protective measures against CVD. Therefore, eating a variety of foods, such as fruits, vegetables, whole grains, and substituting water for high sugar drinks, will increase the body’s potential for energy, protein, vitamins, minerals, and fiber necessary for good cardiovascular health. It is when the consumption of calorie-dense foods, which are often high in fat and/or refined sugar, becomes the sustenance of an individual’s diet that weight-gain is certain, especially without a consistent pattern of exercise. Therefore, obesity can be viewed as a measurement of what we place in our bodies versus what we expend. Obesity has become a major public health concern within the United States. The CDC found that the prevalence of obesity increased from 19.8% to 20.9% between 2000 and 2001. (CDC 2003, p. 1) With the prevalence of obesity increasing, many researchers argue that this epidemic is reaching monumental proportions and actions must be taken to combat further increase.

Small measures can be taken in the workforce to combat obesity, such as access to healthier foods and reasonable cost for these foods. Healthier eating habits will reduce long-term medical costs and sick days (WELCOA 1995). Worksites can become a vital advocate of nutritious products and become active participants in the food options available to their employees. The worksite inventory explored possible barriers associated with healthy eating. The survey

investigated various topics including the cost of fresh fruits and vegetables, lack of healthy choices/options in the worksite cafeteria and/or vending machines. Of the worksites that responded to the inventory (n=251), the majority acknowledged having vending machines within the worksite, and more than half said at least two healthy options were offered in the vending machine. Unfortunately, very few vendors provided healthy labels on their products or offered any special promotions of healthy foods.

In relation to cafeteria food, less than half of the worksites reported having a cafeteria onsite. For those worksites that reported having an onsite cafeteria at least three healthy items were available daily, but very few labeled healthy foods or had a policy on healthy food prep. Similarly, several worksites reported not having special cafeteria promotions on low fat foods or encouraged nutritious food options.

Table 2: Access to Nutritious Food

	Questions	Yes	No
4.1	Does the worksite have vending machine(s) to access food during working hours?	60.9%	34.6%
4.1.1	Were at least 2 healthy options available?	61.3%	37%
4.1.2	Do the vendors provide labels to identify healthy foods?	12%	88%
4.1.3	In the past 12 months, has the worksite had any special promotion or sales of low fat foods, fresh fruits, vegetables, in the vending machines?	6.7%	92%
4.2	Does the worksite have a cafeteria?	31.4%	68.5%
4.2.1	Were at least 3 healthy options available?	82.2%	17.7%
4.2.2	Worksite provide labels to identify “healthy” foods in the cafeteria?	36.7%	63.2%
4.2.3	Does the worksite provide written policies that require healthy food preparation practices in the cafeteria?	36.7%	63.2%
4.2.4	Worksite provide any special cafeteria promotions in consumption of low fat foods, fresh fruits, vegetables?	37.9%	62%
4.3	Does the worksite encourage provision of nutritious food options at employee meetings?	30.2%	69.7%

Physical Activity

Regular physical activity is essential for cardiovascular health. People who engage in regular physical activity have fewer hospitalizations and improved medical outcomes (WELCOA 1995). Most research has directly linked the lack of physical activity to the exacerbation of chronic conditions. With the increasing cost of healthcare, the ability to exercise, as part of company health promotions, will promote healthy habits and policies, leading to improved performance and efficiency in the worksite. The worksites were asked several questions on exercise practices in the workplace and how often they engaged in worksite-sponsored physical activities. Of the 251 worksites, less than half reported having a shower or changing facility on site and fewer reported having on-site exercise facilities. Of those worksites with on-site exercise facilities, almost all of the facilities were open at convenient times; meaning that the facility was accessible before and after normal business hours. The majority of exercise facilities also provided adequate aerobic equipment and facility resources. More than half of the worksites with on-site exercise facilities promoted the exercise facility, but most facilities were not free for employees. (See Table 3)

The inventory asked whether the worksite subsidized an off-site exercise facility membership, and whether the worksite sponsored employee sport teams, maintained outdoor exercise areas and had written policies supporting physical fitness. Most of the worksites stated there were no allotments made toward subsidizing off-site exercise facilities or sponsored employee sport teams. Less than 20% of the worksites reported having outdoor exercise areas for employees, a written policy supporting employee physical fitness, or a written flex time policy that allowed employees to be physically active during the work shift. Although several of the worksites reported having a pleasant outdoor environment to walk or bike, only a few worksites had bike racks available for employees. Moreover, few of the worksites provided incentives for engaging in physical activity. Several worksites reported having stairways, and of those almost all reported the stairways were clean, accessible, and clearly marked. However, few worksites with stairs promoted their use.

Table: 3 Physical Activity

	Question	Yes	No
5.1	Worksites provide shower/changing facility for employees?	40.2%	59.4%
5.2	Does the worksite have an on-site exercise facility?	23.9%	76%
5.2.1	Is the facility open at convenient times?	95%	
5.2.2	Does it provide aerobic equipment or facilities?	91.6%	
5.2.3	Does worksite promote the availability of exercise facility?	66.6%	
5.2.4	Is the facility free for employees?	85%	
5.3	Does the worksite subsidize an off-site exercise membership?	25%	74.9%
5.4	Does the worksite sponsor any employee sports teams?	38.6%	61.3%
5.5	Does the worksite provide or maintain outdoor exercise areas?	19.9%	80.4%
5.6	Worksites have a written policy statement supporting employee physical fitness?	7.5%	92%
5.7	Worksites have a written flex-time policy, which allows employees to be physically active during the work shift?	18.3%	81.6%
5.8	Is the area surrounding the worksite within one mile a safe and pleasant place to walk, run, or bike?	86.4%	13.5%
5.9	Are there bike racks at the worksite available for employees?	21.1%	78.4%
5.10	Does the worksite provide incentives for engaging in physical activity?	15.5%	84.4%
5.11	Are there any stairways at the worksite?	60.5%	18.3%
5.11.1	Are the stairways clean and safe?	98.6%	
5.11.2	Are the stairways accessible and clearly marked?	94%	
5.11.3	Has stairway use been promoted by the worksite in the last 12 months?	28.9%	

Screenings & Programs/Educational Messages

Worksites were asked to provide information on screenings and assessment in various areas over the past two years. This question specifically addressed screenings beyond the pre-employment physical on blood pressure, cholesterol, glucose (blood sugar), health risk appraisal and fitness assessments. Only half of the worksites screened for blood pressure, followed by glucose, cholesterol screenings, health risk appraisals and fitness assessments. Of those worksites that reported screening activities, less than 25% reported the assessment was free to employees and free for their family members (See Table 4 below).

Table 4: Screening Assessment

Has the worksite provided any of the following screenings or assessments:		
	Yes	No
Blood Pressure	50.5%	49%
Cholesterol	38.6%	61.3%
Blood Glucose	39.8%	60.1%
Health risk appraisals	27%	72.9%
Fitness Assessment	22.3%	77.6%
Free to employees	24.4%	--
Available to family	16.5%	--

As mentioned above, following the reports on limited screenings, the worksites were asked about worksite or insurance-sponsored programs. The majority of the worksites did not provide or promote insurance-company sponsored programs in chronic health practices. A small percentage reported the promotion of insurance-company sponsored programs for smoking cessation, weight control, or fitness and even less reported their worksite as promoting insurance company. (See Table 5)

Of the worksites that reported having insurance company sponsored programs, several also reported that services were free to employees and available to family members. Moreover, within the past twelve months, less than 35% of the worksites provided health and wellness messages to the general employee population.

Table 5: Insurance Company-Sponsored Programs & Educational Messages

	Questions	Yes	No
7.1	Did the worksite provide directly/promote insurance company sponsored programs in the areas listed below?		
7.1.1	Smoking Cessation	20.3%	79.6%
7.1.2	Weight Control	22.3%	77.6%
7.1.3	Fitness	21.5%	78.4%
7.2	Worksite provide directly/promote insurance company sponsored programs to help insured manage their disease for:		
	Asthma?	15.5%	84.4%
	Arthritis?	13.5%	86.4%
	Diabetes?	3.9%	96%
	Cardiovascular Disease?	17.1%	82.8%
7.3	If answered “Yes” to any of the questions in section 7.1 and 7.2, were the program(s):		
7.3.1	Free to employees?	30.3%	
7.3.2	Available to family?	32.1%	
7.4	Has the worksite provided health and wellness messages to employees on any of the topics listed below?		
7.4.1	Smoking Cessation/Wellness?	25.4%	74.5%
7.4.2	Healthy Eating/Wellness?	30.2%	69.7%
7.4.3	Exercise/Wellness?	31.4%	68.5%

Administrative Support

Administrative support is essential for the development, coordination and mission of a wellness committee. As reported, most worksites did not have an established wellness committee. (See table 6) But, for those worksites with wellness committees, most met at least quarterly. Several of the worksites reported the committee was represented by a cross section of the workforce and included at least one senior manager. Less than half acknowledged a written mission or goal statement for the committee. Finally, about half of the wellness committees had a budget.

The worksite organizational mission statement geared toward maintaining employee health reported pessimistic numbers. Less than half believed that there was an individual responsible for employee health promotion. Of that, less than half of the worksites perceived the employee dedicated to health promotion dedicated at least half of his/her responsibilities to health promotion. Conversely, more than half of the worksites believed that the health promoter had a prospective budget to work with. A few worksites had reported completing an employee health needs assessment within the past two years and reported providing management support for health promotion.

Table 6: Administrative Support: Wellness Committee

	Question	Yes	No
8.1	Does the worksite have a wellness committee?	18.6%	80.9%
8.1.1	Does the committee meet at least quarterly?	80.8%	
8.1.2	Represented by a cross section of the workforce?	72.3%	
8.1.3	Does it include at least one senior manager?	76.5%	
8.1.4	Written mission/goal statement for the committee?	42.5%	
8.1.5	Does the committee have a budget?	55.3%	
8.2	Worksite mission statement contains references to improving/maintaining employee health?	13.8%	85.3%
8.3	Does the worksite have an individual responsible for employee health promotion?	35.4%	64.5%
8.3.1	Are at least half of his/her responsibilities devoted to health promotion?	41.5%	
8.3.2	Does the individual have a budget to work with?	67.4%	
8.4	Did the worksite complete an employee health needs assessment during the previous 24 months?	20.7%	79.2%
8.5	Does the worksite provide management support for worksite health promotion?	38.3%	61.7%

Asthma

Occupational asthma is also undiagnosed and is directly linked to work-related absenteeism. Occupational asthma is the most prevalent work-related lung disease in Missouri, and the United States. However, the exact proportion of newly diagnosed cases of asthma in adults due to occupational exposure is unknown”. Often the incidence of occupational asthma varies based on the industry and the level of exposure. (<http://www.aaaai.org/patients/publicedmat/tips/occupationalasthma.stm>) Recently, research aims have brought occupational asthma issues into the forefront for further study. Moreover, this attention has assisted with improved awareness and diagnosis. “Occupational asthma is generally defined as a respiratory disorder directly related to inhaling fumes, gases, dust or other potentially harmful substances while on the job”. Employers are using lung function tests to pre-screen new employees and periodically re-test employees for symptoms.

In the worksite inventory, the asthma questions focused on the worksite. Few worksites reported that asthma screenings had been completed within the past two years, which was consistent with a slight increase that found the company identified asthma as an occupational illness. Less than 10% of the worksites reported employees having some occurrence with asthma that forced them to leave work early or reported having respiratory distress within the past year. A small number of the worksites believed that the administration provided educational awareness information on asthma and related respiratory disorders, while few believed that the focus of the worksite had changed in the past 12 months. (See Table 7)

Table 7: Asthma Assessment

	Question	Yes	No
9.1	Has the worksite conducted a screening or assessment on asthma?	2%	84%
9.2	Has your company identified asthma as an occupational illness in the last two years?	3%	83.2%
9.3	Have employees had to leave work early due to asthma?	6%	80.4%
9.4	Has the worksite provided educational or awareness information about asthma or other respiratory disorders?	10.7%	76.4%
9.5	Any employees reported respiratory distress, wheezing, shortness of breath or coughing that has been severe enough that the employee had to leave work?	9%	77.6%
9.6	Has the focus of the worksite changed in the past 12 months (i.e., type of good manufactured)?	15.1%	72.1%

Repetitive Motion

The inventory reported some of the worksites offered ergonomics assessment. Ergonomic assessments look at the design of the workplace environment and the technological mechanisms located in the workplace to enhance employee productivity, safety and quality of life. While twice as many respondents found the worksite did offer an ergonomically accommodating environment, fewer believed that the worksites encouraged changing from static positions to fluid positions in the workplace. Whereas, less than 20% of the worksites offered wellness and educational messages about arthritis. (See Table 8)

Table 8: Repetitive Motion

	Section Question	Yes	No
10. 1	Has the worksite had an ergonomics assessment?	14.7%	77.2%
10. 2	Worksite offer an ergonomically accommodating environment for all employees?	28.2%	63.7%
10.3	Worksite encourage changing from static positions to changing positions and/or rest joints?	25.8%	66.1%
10.4	Worksites include body mechanics and arthritis topics for wellness and educational messages?	19.1%	72.9%

DISCUSSION

The results of the worksite inventory indicate that barriers exist that limit the maximum potential of worksites to establish an environment conducive to wellness. The worksite inventory identifies the strengths of the worksites as well as offers suggestions for improvement that will assist in the progression of worksite wellness.

The majority of the worksites have explicit guidelines on smoking and have limited access to a smoking area on site, with very limited access to tobacco products on the site. But, these policies could be further improved by providing incentives to motivate and/or encourage their employees to quit smoking.

Access to healthy food options was limited. But sites can work with vending companies and cafeteria staff to promote healthy foods. Through food labels, special promotions and incentives, employees will have reinforcement of the importance of healthy food consumption. Furthermore, these provisions formally encourage nutritious foods purchases throughout company sponsored meetings and programs. An extension of healthy eating is physical activity. Almost half of the worksites reported their employees have the ability to engage in some form of exercise (i.e., walking, stairs, or biking) on site. Exercise facilities that are free to employees, promote physical fitness

and provide a health and wellness message that encourages employee participation. The majority of the worksites (85%) that have exercise facilities provided free access to their employees.

Screening assessments were a weak area for many worksites. The need for follow-up screenings and intervention programs would enhance the worksites ability to help members manage chronic illnesses. Proper management of illnesses can reduce insurance costs to the company. Moreover, special programs directly aimed at health promotion can further enhance the potential of employee wellness. Administrative support is essential to the organization and processes supporting health promotion. By establishing a budget and structuring a system that will successfully implement wellness activities will affirm management's support and interaction on health efforts. As documented by CDC, occupational asthma is on the rise. Worksites can protect themselves and employees by conducting a building assessment to identify potential triggers and periodically update the assessment with internal walkthrough inspections. The benefit of worksites identifying potential hazards and making resources available to employees that enhance knowledge and awareness, the worksite is well on it way of eliminating potential risks, problems, and costs associated with asthma.

The majority of the worksites (63.7%) reported the lack of an ergonomically accommodating environment. With a simple ergonomic assessment, worksites can enhance the atmosphere of the workplace by providing a friendly environment that promotes work productivity. It is important to emphasize again that taking small measures within the worksite will reduce health care costs and employee absenteeism, but also increase employee moral and productivity. These qualities are essential to the growth and profitability of future company success.

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